PRATI ARMATI®

ABOUT US

Prati Armati srl is a Company that developed an innovative green technology called PRATI ARMATI® that uses *deep rooting, perennial, non invasive, non GMO, locally native,* seeds of herbaceous plants, able to contrast both water and wind soil erosion and desertification, on:

- roadside, motorway and railway embankments
- riversides
- quarries, mines
- landfill sites and sites affected by heavy-metal pollution

From more than 15 years we work for public administrations and private companies like ANAS, AUTOSTRADE per L'ITALIA, and so on.

WE CAN STOP EROSION

- on any lithotypes (both SOIL and ROCKS) difficult or impossible to cover using traditional techniques *(geocells, geonets, biomats, mulch, wood fiber bond matrix, plastic materials, topsoil, hydroseeding)* even if strongly contaminated by heavy metals or added with lime up to 5%
- at temperatures between - 40°C and +60°C
- with pH range between 4 and 10

WITH THESE ADDITIONAL GEOTECHNICAL ADVANTAGES

- Increase of shear resistance and safety factor of soil
- Reduction of water infiltration into the ground
- Improvement of water removal from upper soil layers thanks to evapotranspiration

not only we can stop erosion ... **BUT**

studies made by Universities and Research Organizations in geotechnical, geological, botanical, agronomic, energy fields, have demonstrated that this technology - *if compared to traditional anti-erosion technologies* - has an extraordinary potential in terms of technical, economic and environmental advantages, being:

1. A perennial anti-erosion solution
2. A zero-maintenance technique
3. Able to facilitate re-naturalization and ecological succession by incorporating any desired seed of flowers, shrubs or trees
4. Able to capture CO_2 up to 400% more than common grassy plants
5. Capable to reduce, with respect to traditional techniques:

    - *up to 100 times the weight of required materials*
    - *up to 10 times the energy requirements*
    - *up to 10 times polluting emissions (CO_2 CO NO_x SO_x particulate)*
    - *on-site working times and site-related risks*
    - *up to 50% of economical costs*

EXAMPLES in any climate and litotype

RESULTS

Altered tuff pyroclastites and fractured basalts (center Italy, Orvieto)

Silty sand (Motorway A3, Calabria, south Italy)

Pliocenic over compacted clay of marine origin
(center Italy, Motorway A1)

Perfectly clean ditches at the base of a PRATI ARMATI® installation
(center Italy, Motorway A1)

Heterometric slope debris
(north Italy, Alps, 1.400-1.700 meters above sea level)

Slightly cemented sandy limestone – calcarenite –
(south Italy, Sicily Motorway)

Limestone quarry
(center Italy, Spoleto)

Granite and porphyry
(Sardinia)

Some R&D results

by Politecnico di Milano

POLITECNICO DI MILANO:

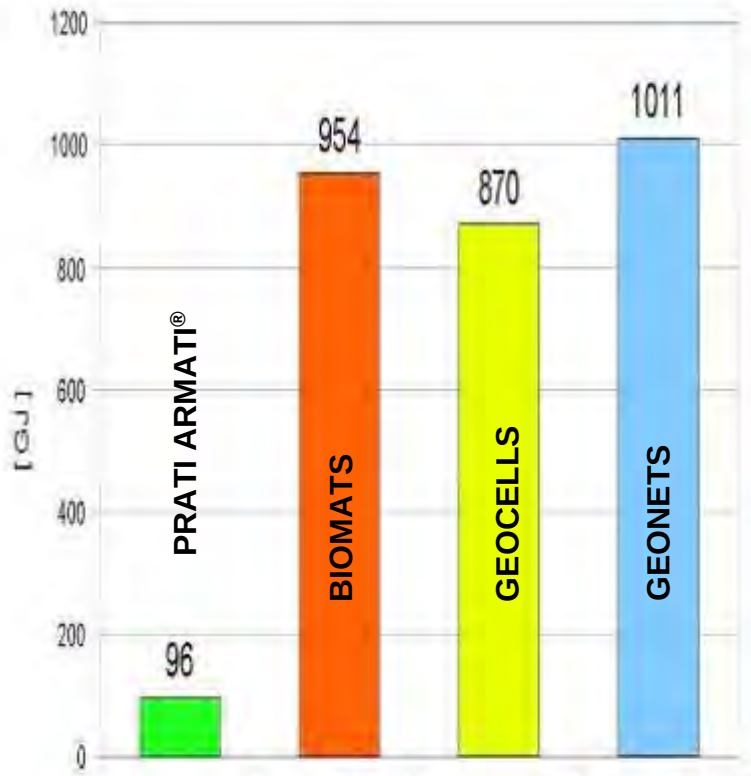
MOTORWAY SLOPE

energy requirements (expressed in GJ) and pollution emitted (CO_2, CO, NO_x, SO_x and particulate), for 1ha of slope, calculated according to four solutions:

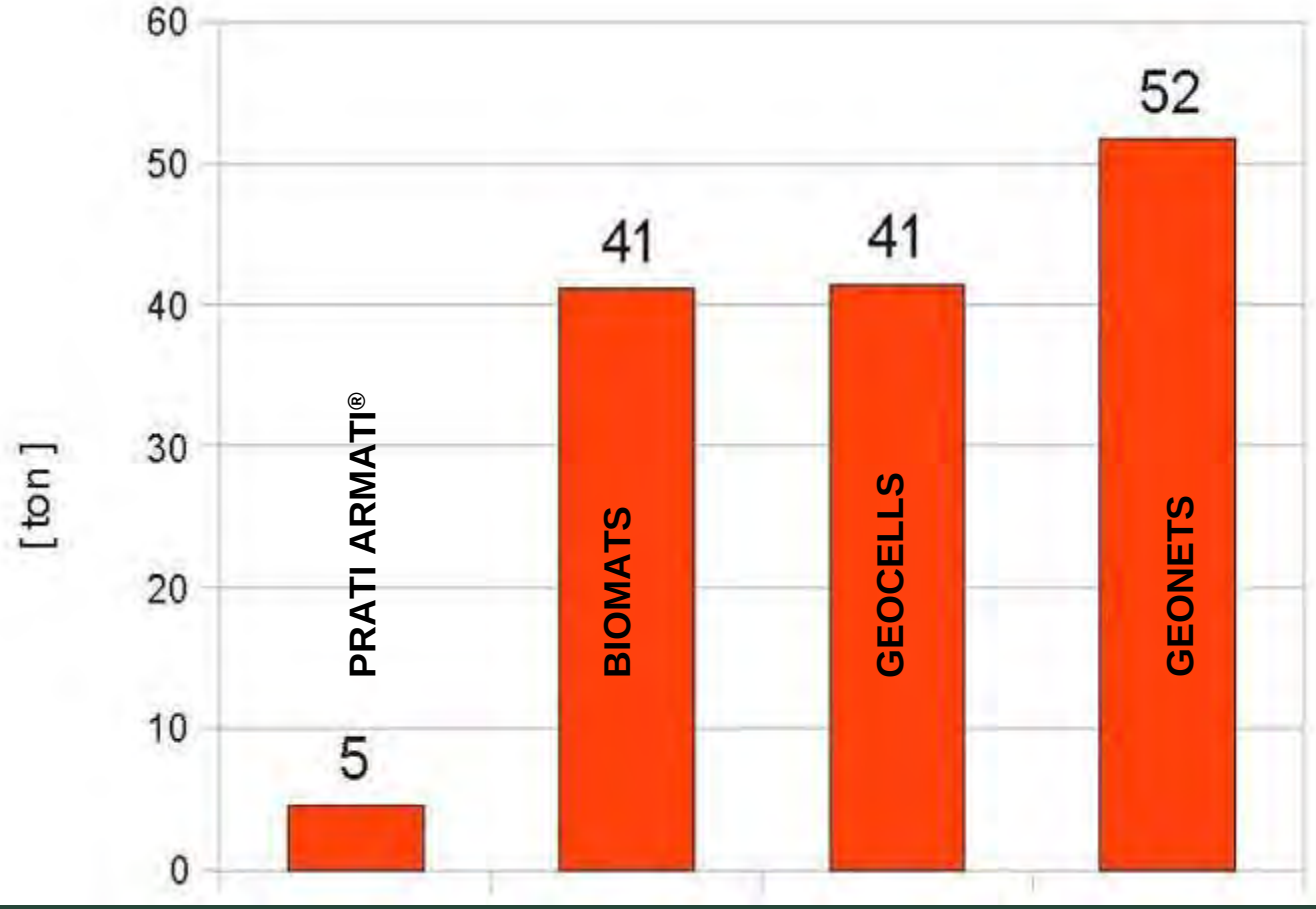
- solution with geonets;
- solution with geocells;
- solution with biomats;
- solution with deep rooting plants (PRATI ARMATI®)

1.000 GJ correspond to the energy contained in 24t of oil

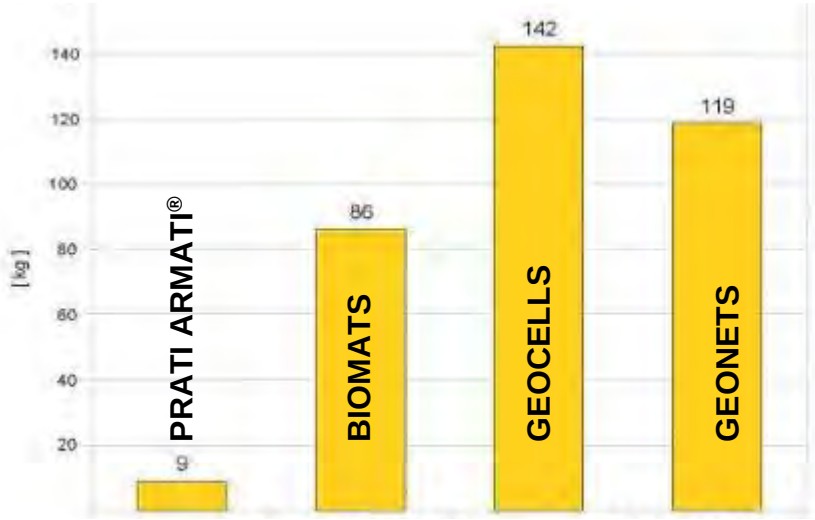
COMPARISON OF ENERGY REQUIREMENTS OF DIFFERENT SOLUTIONS



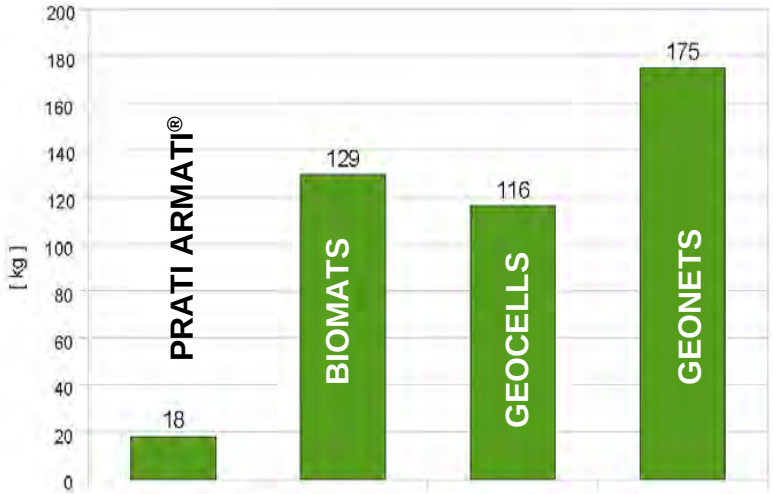
COMPARISON OF CO_2 EMISSIONS OF DIFFERENT SOLUTIONS



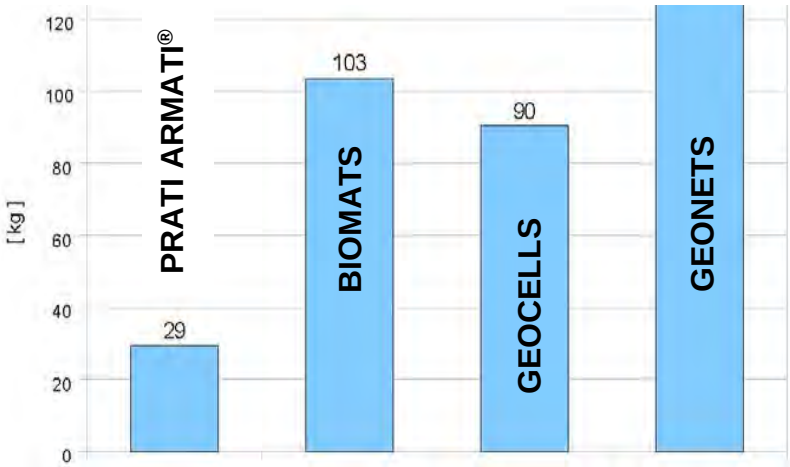
COMPARISON OF CO EMISSIONS



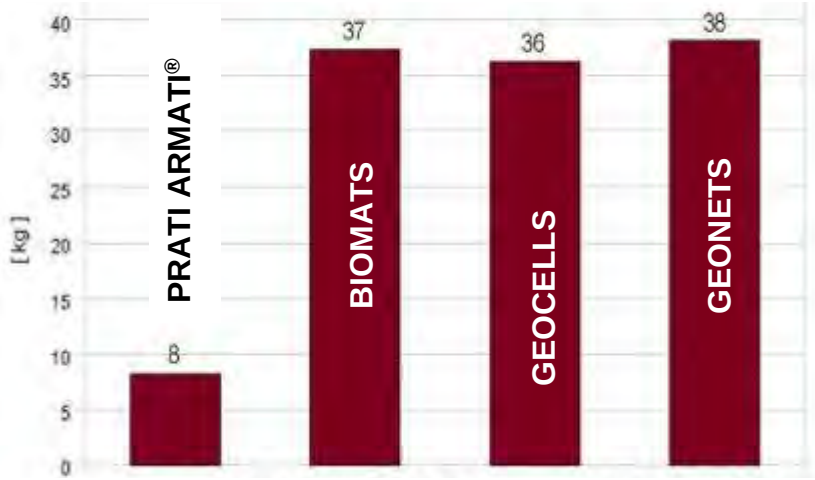
COMPARISON OF NOx EMISSIONS



COMPARISON OF SOx EMISSIONS



COMPARISON OF PARTICULATE EMISSIONS



PRATI ARMATI® AND KYOTO PROTOCOL

PRATI ARMATI® may store *up to* 400% more carbon dioxide (CO_2) than most common grassy plants used in traditional applications, thus contributing to the implementation of Kyoto Protocol

KIND OF GROUNDCOVER	TONS OF CO_2 ABSORBED PER HECTARE EACH YEAR (t/ha/year)
Temperate deciduous forest (plants C3)	20
Temperate grassland (plants C3)	8
Annual corn plantation (plants C4):	41,5
Perennial PRATI ARMATI® anti-erosion groundcover (plants C4)	up to 40

CO_2 absorbing capability of different groundcovers measured in tons per hectare per year

PRATI ARMATI®

Thanks for your

attention

(a bouquet of flowers in a quarry)